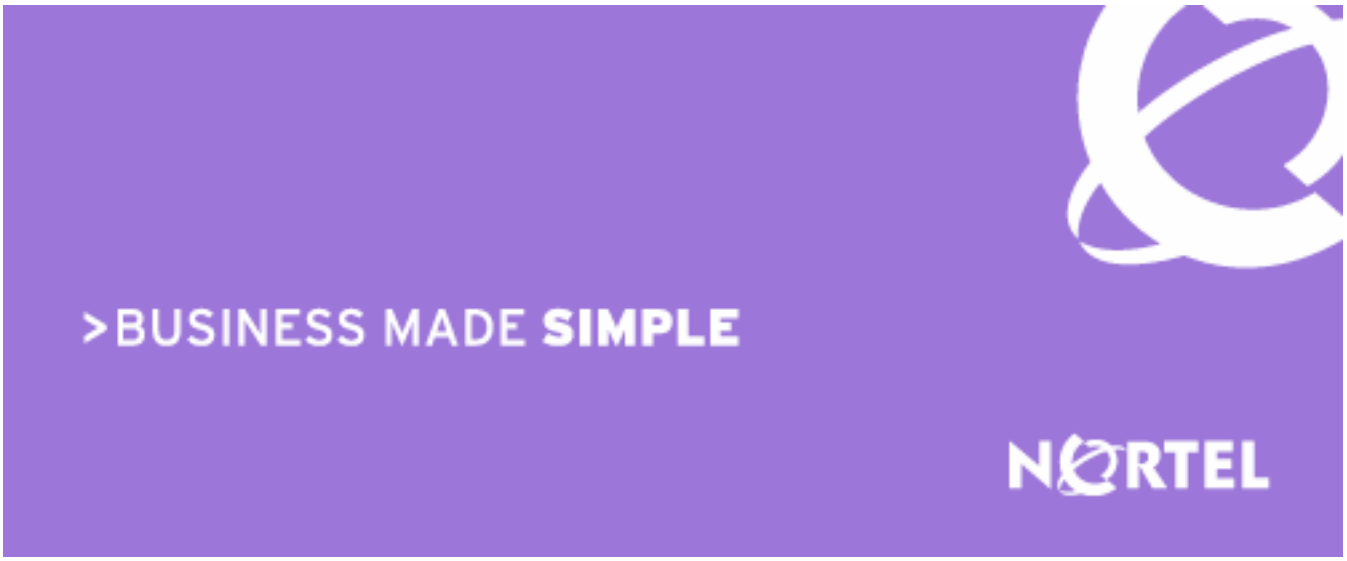

Business Communication Manager
BCM 200/400
Technical Configuration Guide

> Technical Configuration Guide for BRI Based Video Conferencing on BCM

Enterprise Solution Engineering
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Abstract

This Technical Configuration Guide (TCG) documents one specific application of an ISDN BRI based Polycom VideoStation 512 system.

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1. Introduction

Point to point video conference systems have become imbedded into the fabric of today's small and medium business who are seeking cost reductions by leveraging their telecommunications infrastructure. To this end, Nortel's Business Communications Manager (BCM) provides the necessary converged infrastructure to enable this type of application.

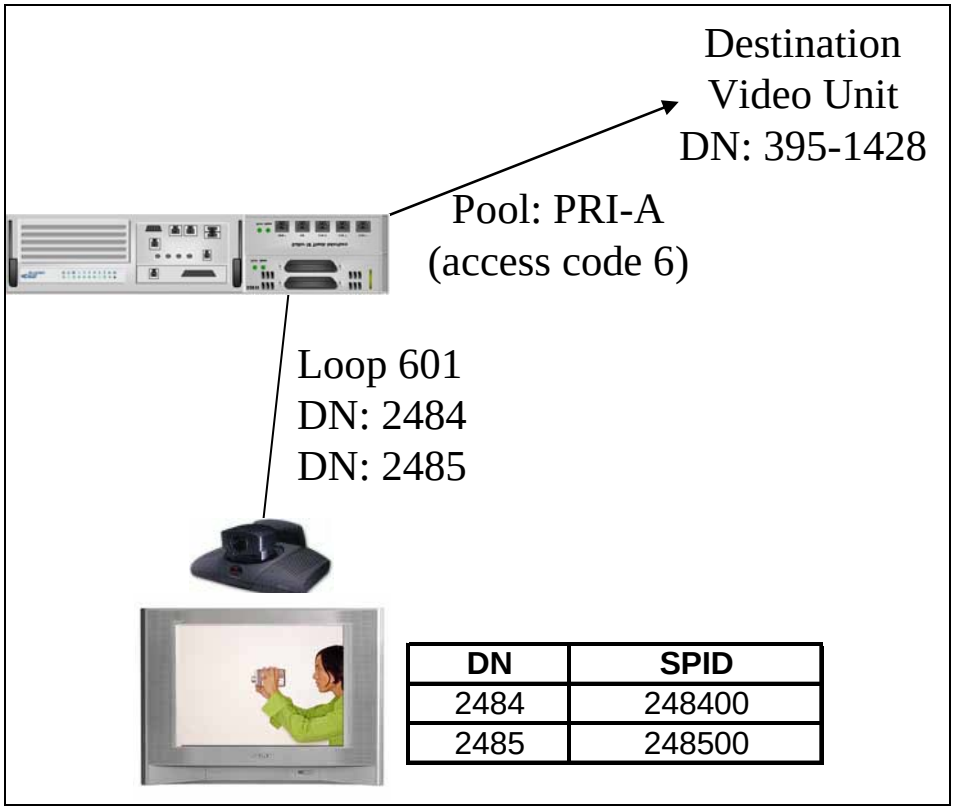
This document is the result of a specific customer request for configuration information regarding point-to-point video conference system based upon a Polycom VideoStation connected to a BCM via BRI. Considerable time and effort were needed to secure the components needed to build this configuration which is intended to closely mimic a legacy customer system.

1.1 Applicability & Baseline

This document was created within the following context:

- BCM 200 platform running appropriately patched BCM 3.7 software
- Polycom VS 512, running release 7.2 (10 March 2002) software

1.2 Reference Network



DN	SPID
2484	248400
2485	248500

Figure 1: Reference Topology

2. Programming

The following information is intended to supplement the existing suite of Nortel Business Communication Documentations. It is intended for an informed and experienced audience familiar with programming, administration, and maintenance of a BCM.

2.1 Before You Start

2.1.1 Pre-requisites

- Existing, and proven, PRI DID connection, with CbC Service, to the PSTN. This includes the corresponding BCM DTM MBM and all associated programming.
- Polycom VideoStation point-to-point video conferencing system running software x.

2.1.2 Additional Information

- Available target line ; for this document, TL 241 will be used
- Available ISDN DNs ; in our example, DNs 2484 and 2485 will be used

2.2 Flow

To complete the setup of this configuration, we will begin with the installation of the BRI MBM and conclude with the programming of the Polycom VideoStation unit.

The following setup process graphic is provided as a job aid for guidance to the novice user. It does not supersede any instructions or methods contained in Nortel BCM documentation.

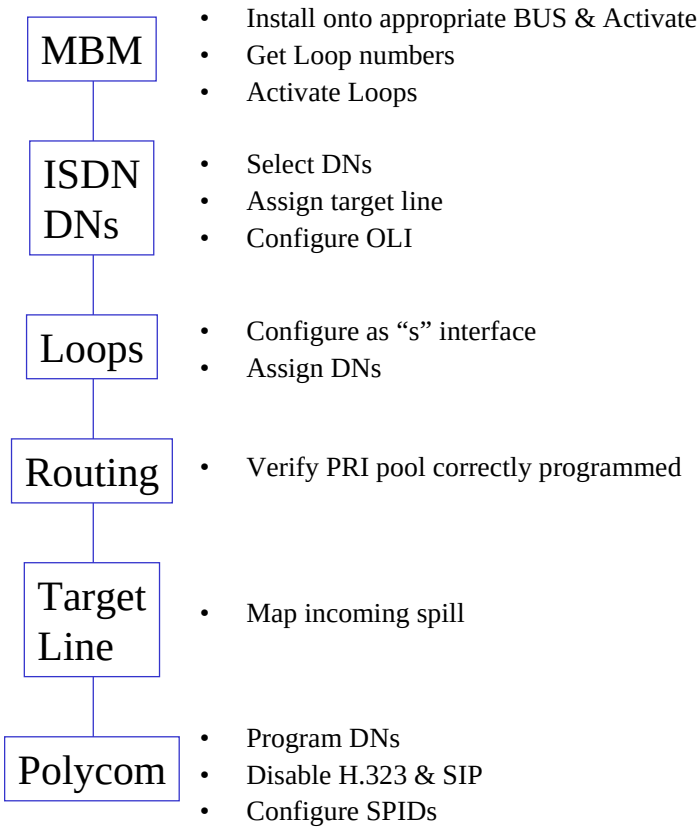


Figure 2: Configuration Flow

2.3 MBM

The objective of the following steps is to insert and activate the ISDN Basic Rate Interface (BRI) MBM into the BCM.

Firstly, identify an available BUS, and set the dip switches accordingly; in this example, we are using BUS 06. Once inserted, set the programming to “Trunk Module”.

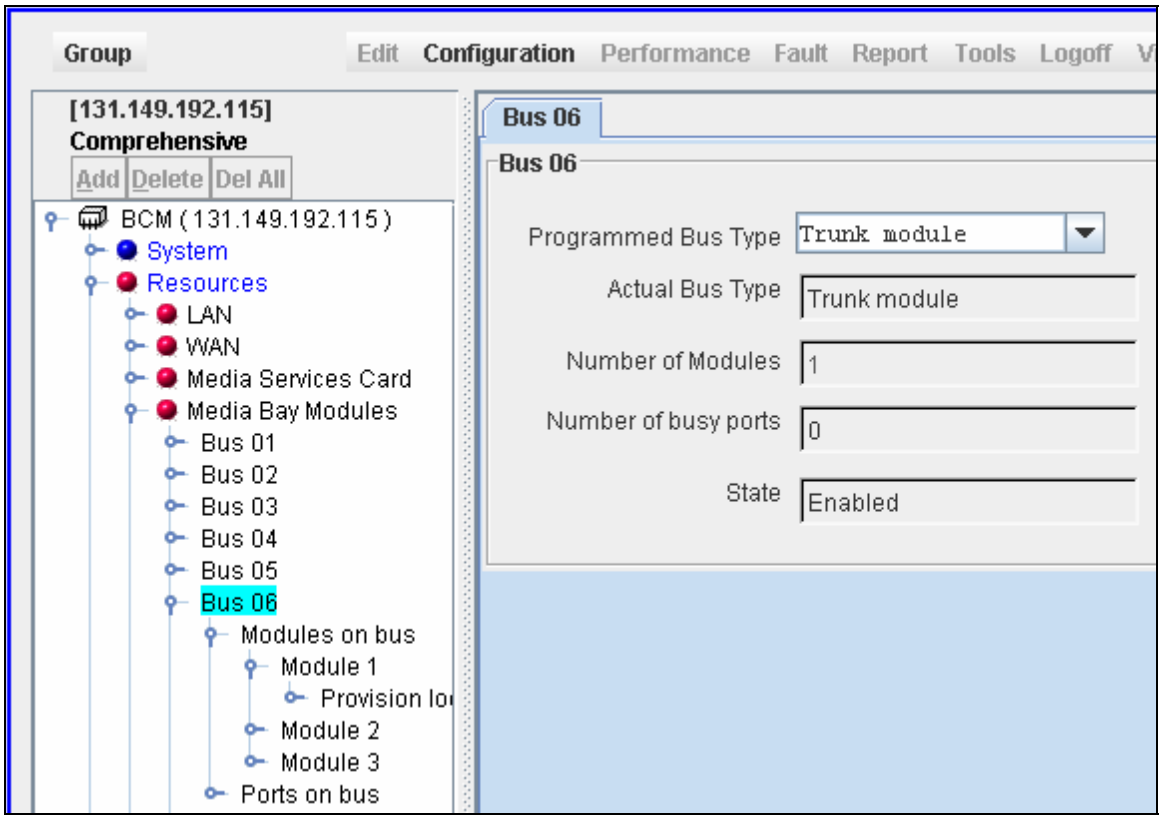


Figure 3: BRI Media Bay Module - BUS 6

With the BRI MBM in place, continue the programming by selecting Module 1 and configuring this as a “BRI-ST” interface.

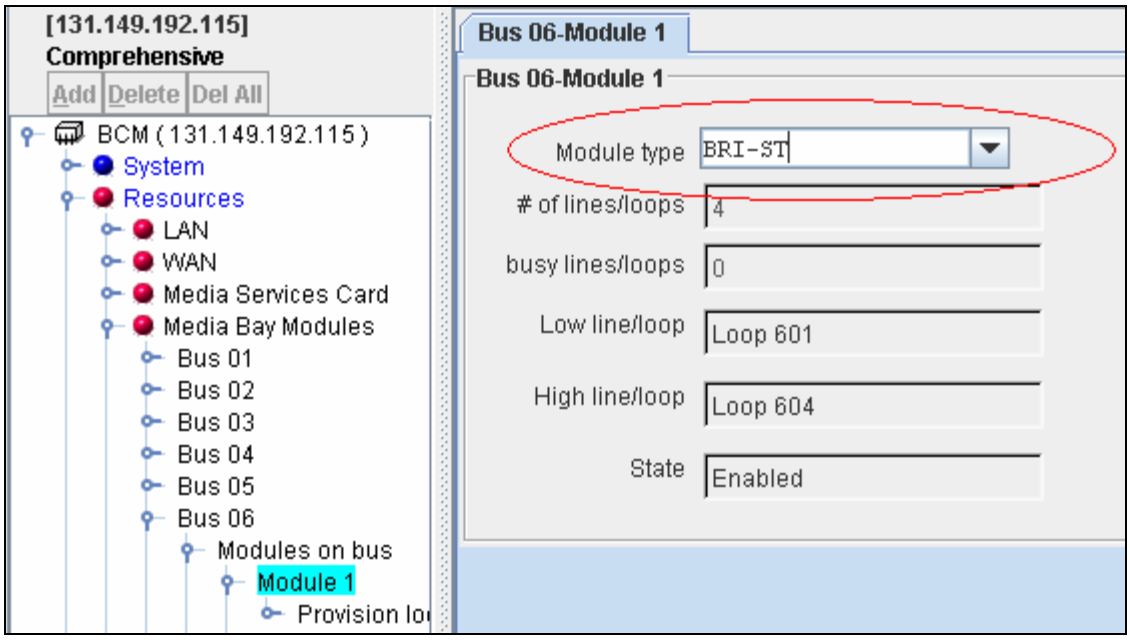


Figure 4: BRI MBM - Module 1

To activate the ISDN BRI Loop, change its status to “Provisioned”.

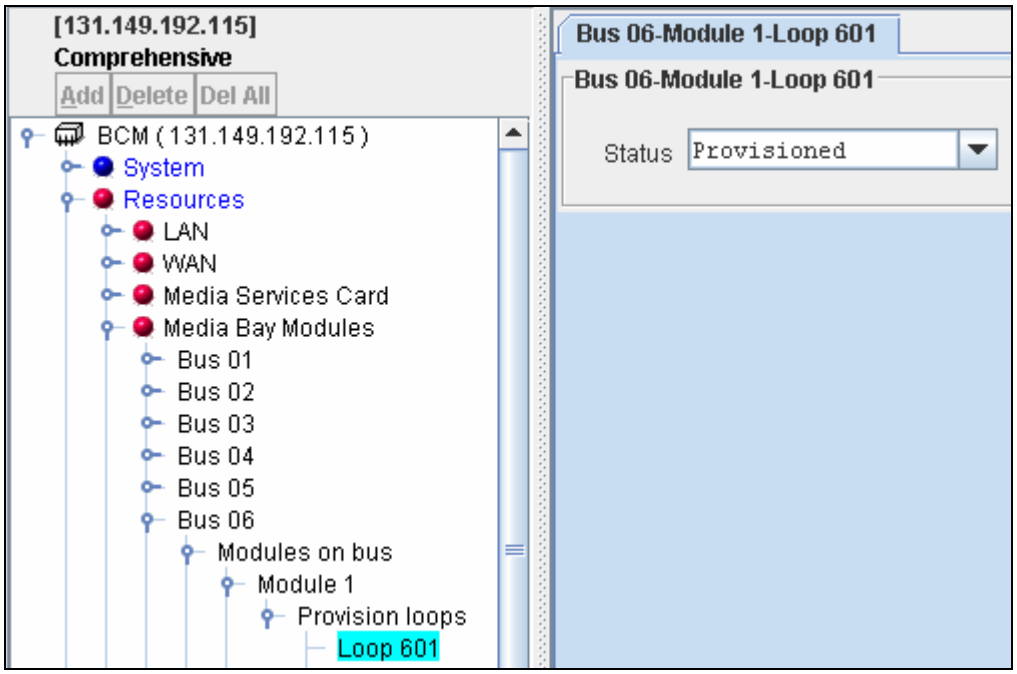


Figure 5: BRI MBM - Status

2.4 ISDN DNs

The next steps consist of ensuring that the selected ISDN DNs have the necessary features and operating parameters to originate and terminate calls. Note that the screen captures detail one of the two DNs that must be programmed.

The first step is to ensure that the DNs are correctly identified as being of type ISDN. Repeat for both ISDN DNs to be associated with the video unit.

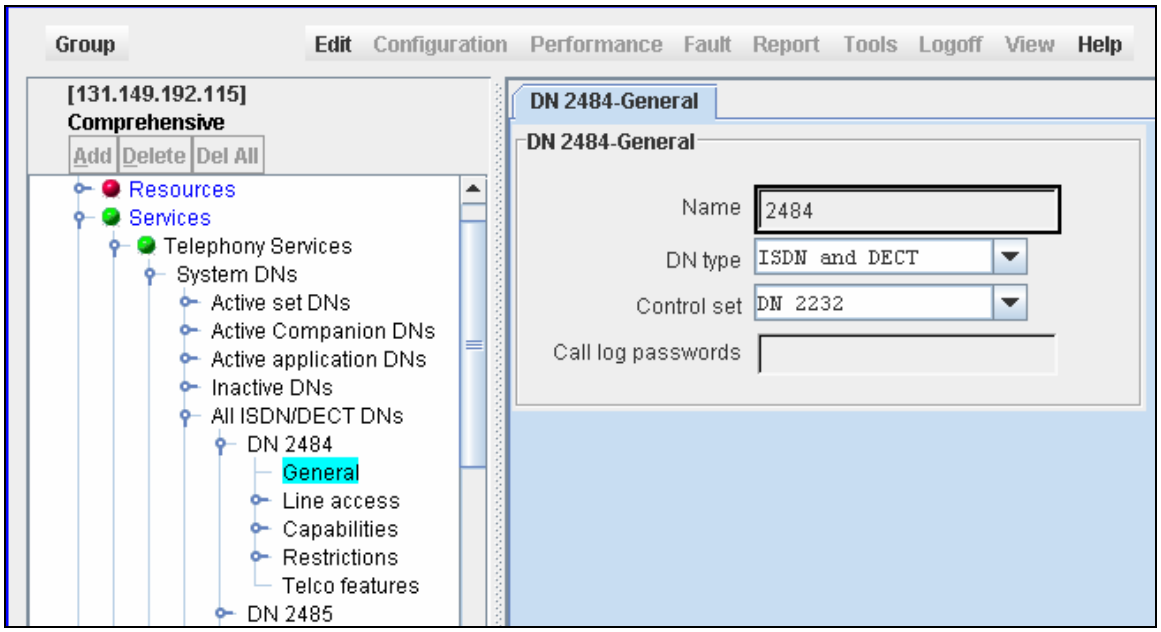


Figure 6: ISDN DNs - DN 2484

The Calling Line ID (CLID) or Outgoing Line Identification (OLI) is the key to ensuring that the far end system will call back the originating system to complete call setup. In this case, our tests were performed on Nortel's corporate network, which operates on a five digit dial plan. For these purposes, the OLI was set to the BCM's prime DN (34190), and was padded with zeros to fill out a full 10 digit as if it was a complete public number.

Thus, in a non-PBX implementation, this field would be set to a complete 10 digit number. For example, if the videoconferencing DN was (905)555-5200, the "Public OLI number" field should be set to 9055555200.

Repeat these steps, for both ISDN DNs to be associated with the video unit, using the appropriate 10 digit DNs for each line.

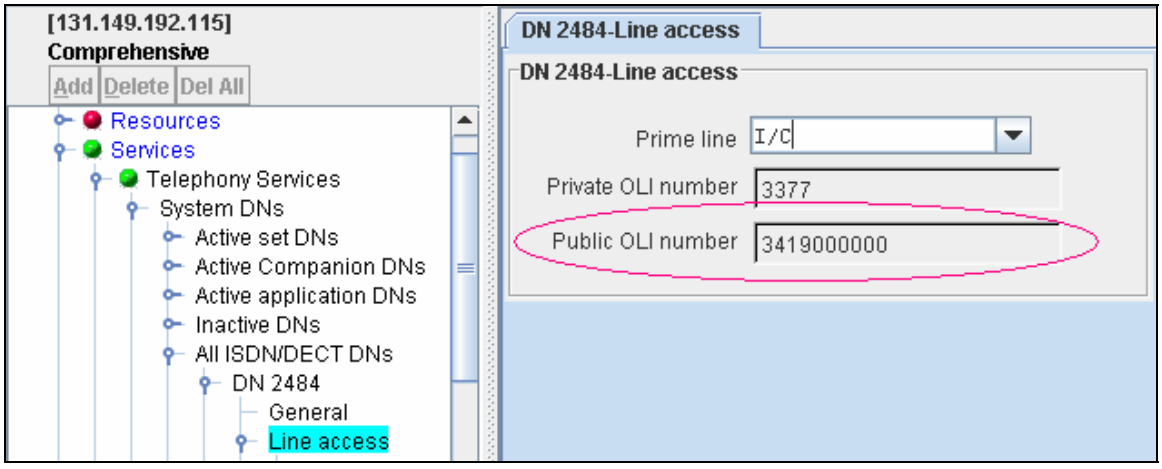


Figure 7: ISDN DNs - Line Access (OLI)

To ensure that incoming video calls to DN 34190 are routed to the correct BCM DN, a target line needs to be configured. In this example, TL 241 is added to the DN 2485. This is completed via the "add" button seen in the figure below.

Note that a second target line for the second B channel is not needed, and should not be configured.

Also, both DNs must be identified to the BCM as Caller ID capable sets.

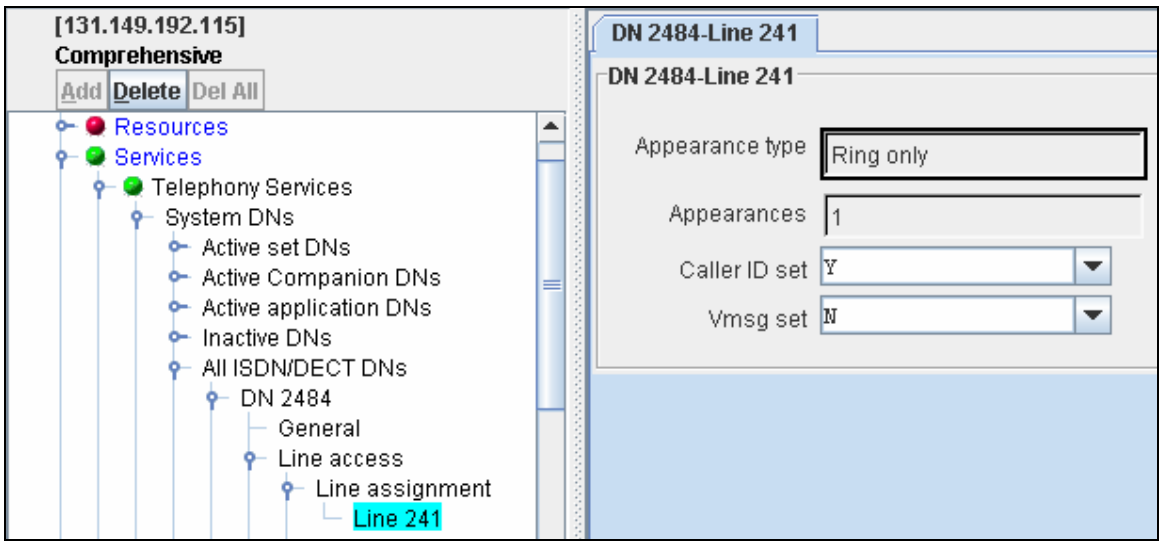


Figure 8: ISDN DNs - Line Assignment

The next steps consist of giving the ISDN DNs access to the PRI network facilities. In this BCM, the PRI lines have been assigned to the pool PRI-A; use the “add” command highlighted in the figure below.

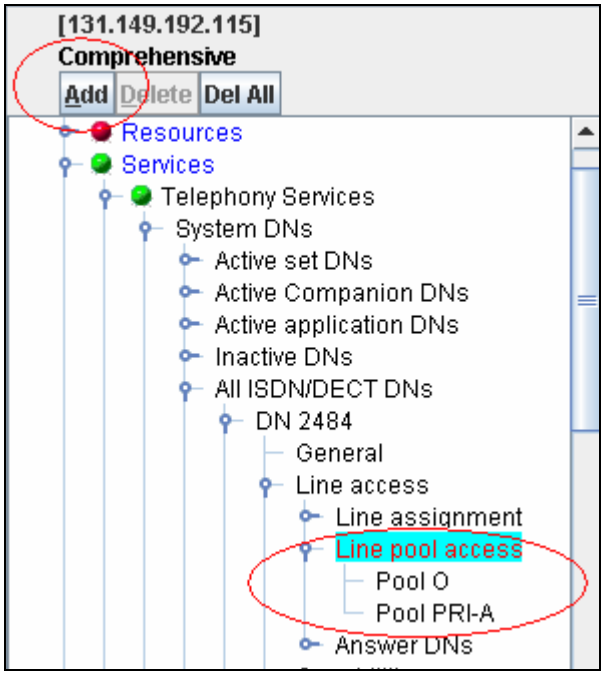


Figure 9: ISDN DNs - Line Pool Access

2.5 Loops

The physical characteristics of the BRI interfaces are defined in the following steps. Follow the screen captures to ensure that each programmable field is set correctly.

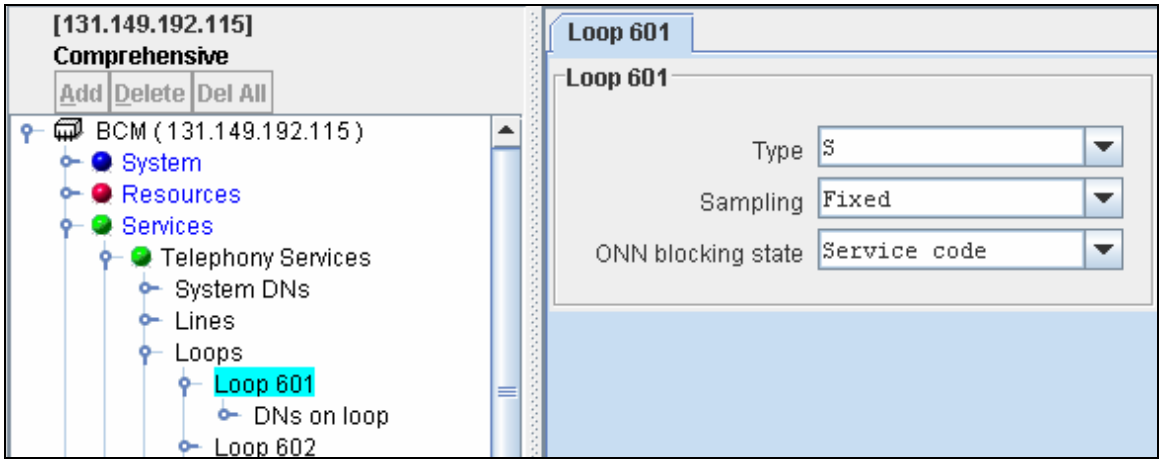


Figure 10: Loops

Associate both DNs to the loop.

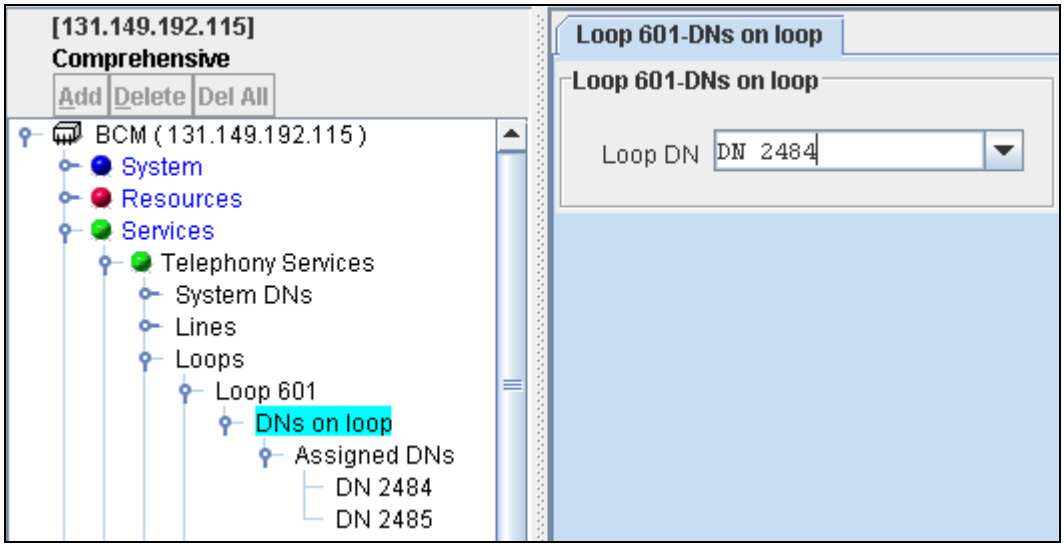


Figure 11: Loop - Assigned DNs

2.6 Routing

Video calls will be dialed directly from the video unit, and will use the dialplan programmed into the BCM. For this example, we have pre-determined that the PRI lines have been pooled into pool PRI-A, and that the access code for this pool is 6. Follow the screen captures below to ensure that the routing in your system is consistent with the customer preferences.

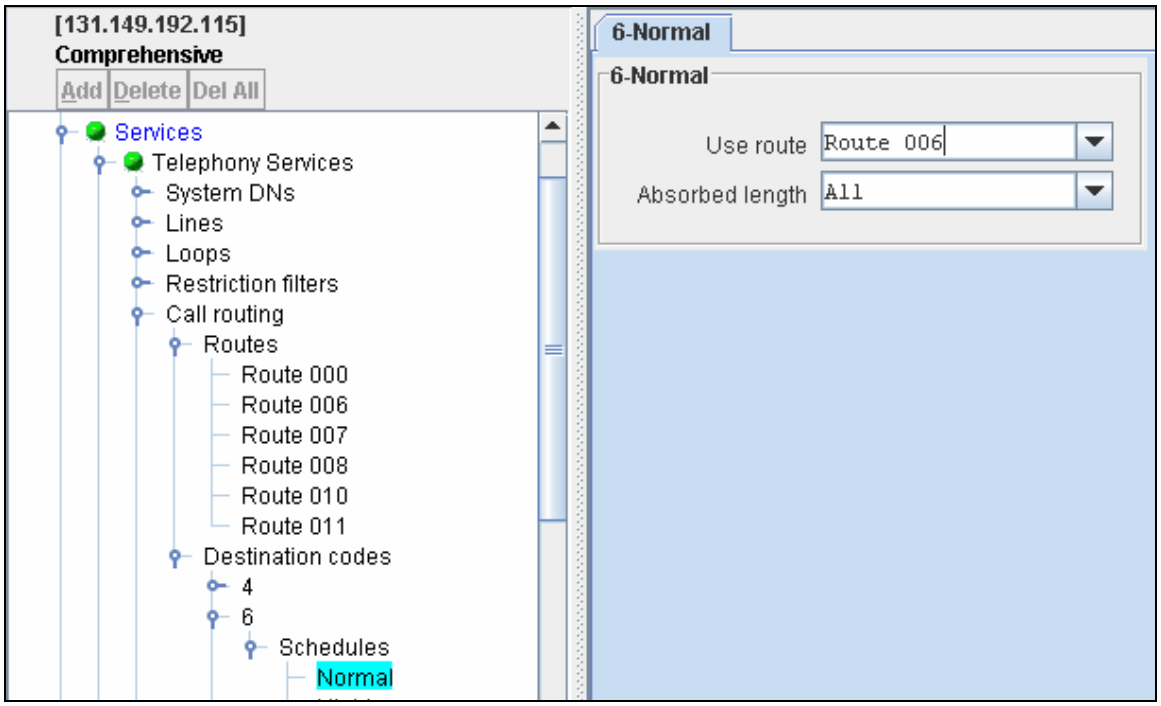


Figure 12: Call Routing - Destination Codes

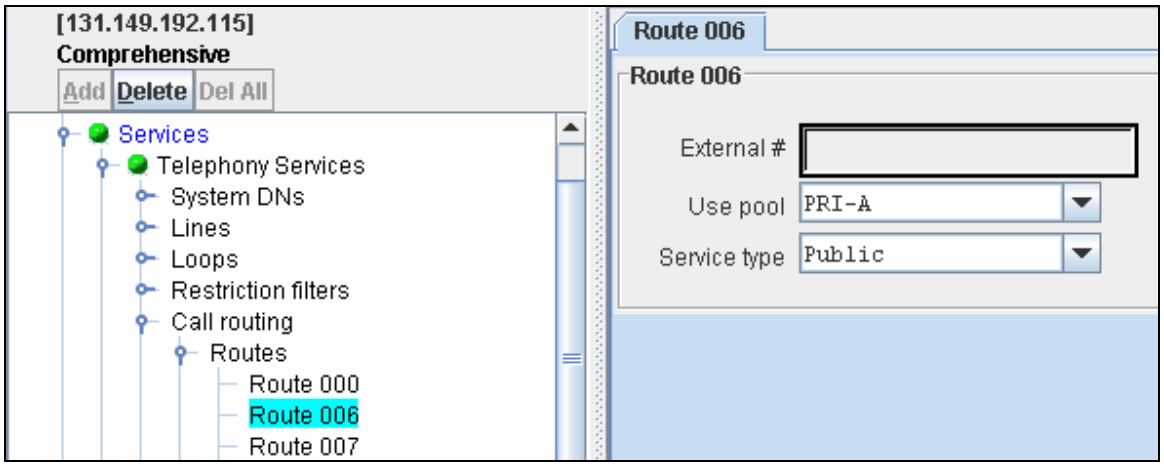


Figure 13: Call Routing - Route

2.7 Target Line

In this example, the programming of the target line allows the BCM to route any incoming calls with the Called Number of 34190 to be routed to DN 2468.

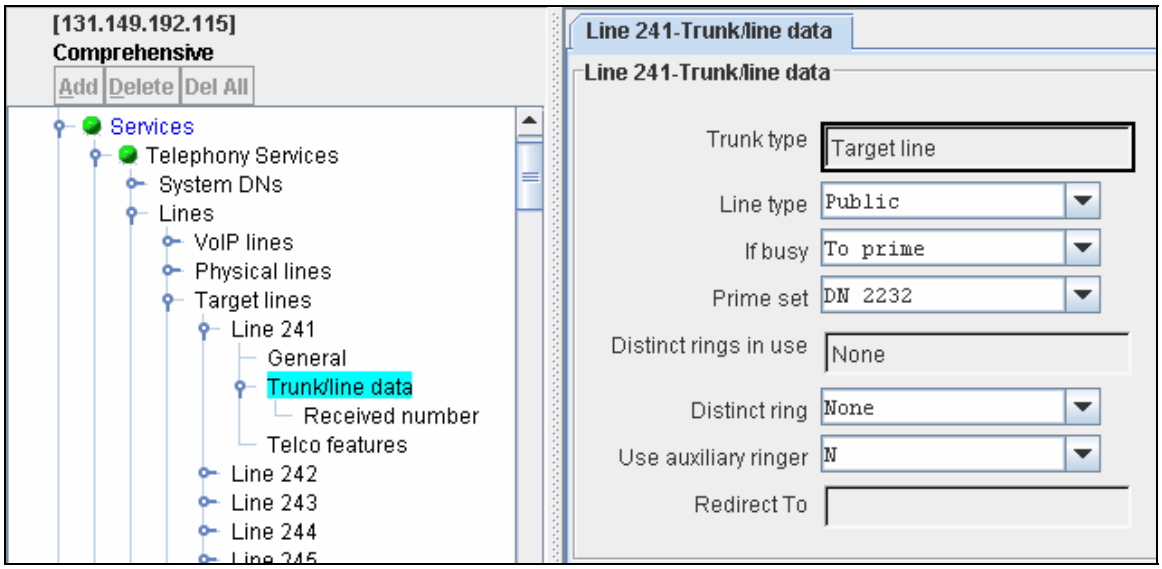


Figure 14: Target Line

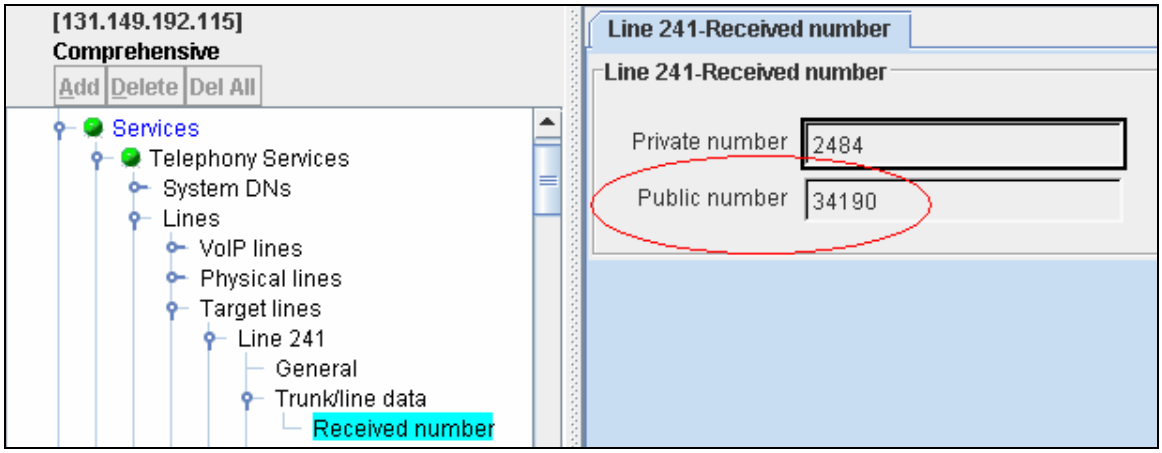


Figure 15: Target Line - Received Number

2.8 Multiple Loop Setup

The previous examples detail the programming of two complete BRI loops, a total of four B channels, to the video unit. It should be noted that additional loops can be utilized, and the programming is an extrapolation of the information given above.

It should be noted that during the development of this document, three (384 Kbps) and four (512 Kbps) loop configurations were setup and tested.

2.9 Polycom

The unit utilized for our testing was a VideoStation 512 running software Release 7.2 – March 10, 2002.

From the Polycom Administration window visible on the video monitor, complete the setup of the system as per the documentation & practices provided by the manufacturer.

In addition, the following subset of setup information is provided as an example to follow. Each individual system configuration will vary; your values will be different from these.

Admin / Network Setup:

- Call Preferences
  - Select ISDN Video Calls (H.320)
  - Ensure that LAN/Internet Calls (H.323) is de-selected
  - Ensure that Display IP Dialing Extension is de-selected
- IMUX
  - Number
    - Set Area Code to an appropriate value (i.e. 905)
    - Line1 B1: set to the extension used in the BCM, in this example it is 2484
    - Line1 B2: set to the extension used in the BCM, in this example it is 2485
  - SPIDs
    - We used the following pattern “00” + BCM DN + “00”
    - In this example Line1 B1: 00248400
    - Line1 B2: 00248500
  - ISDN Video (the values below were used for our testing)
    - Country Code: 1
    - Area Code: 905
    - Number A: 2484
    - Number B: 2485
    - ISDN Switch Protocol: NI-1
    - ISDN Dialing Prefix: leave blank

3. Caveats

3.1 BCM Diagnostics

During the debugging phase of this project, it was observed that the diagnostic information displayed for the BRI Loops appears to be incorrect and misleading. **Unified Manager's BRI loop diagnostic information may indicate that they are out of service when in fact they are operational.**

If you observe the conditions depicted in the screen captures below, it is recommended that you:

- Complete the programming and attempt to place a video call using BCM Monitor to see if there is activity from the video unit as it attempts to seize an outgoing line
- Notify Nortel support of your observations, referencing this document

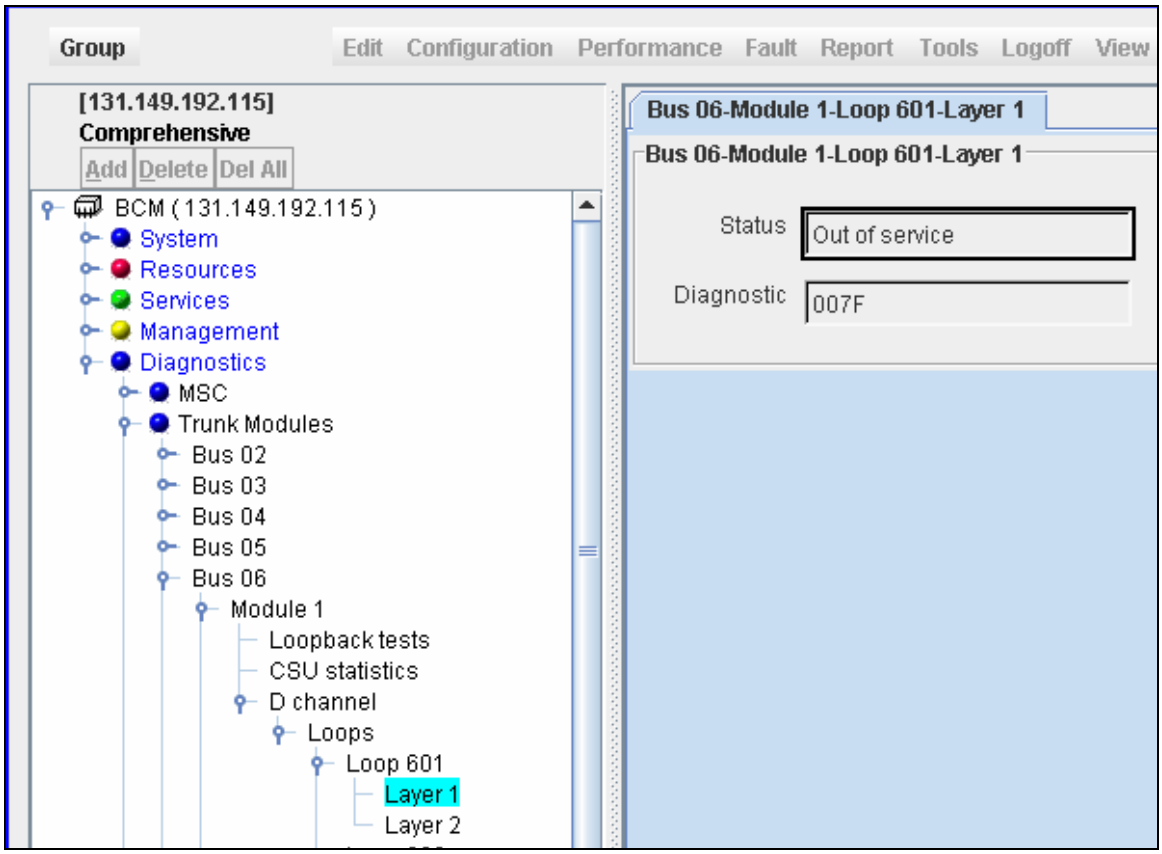


Figure 16: In-service Diagnostic Loop 601 Layer 1

3.2 PRI Trunking

If incoming video calls to the BCM are failing, verify with the Telco that the PRI Trunk has been enabled for voice and data.

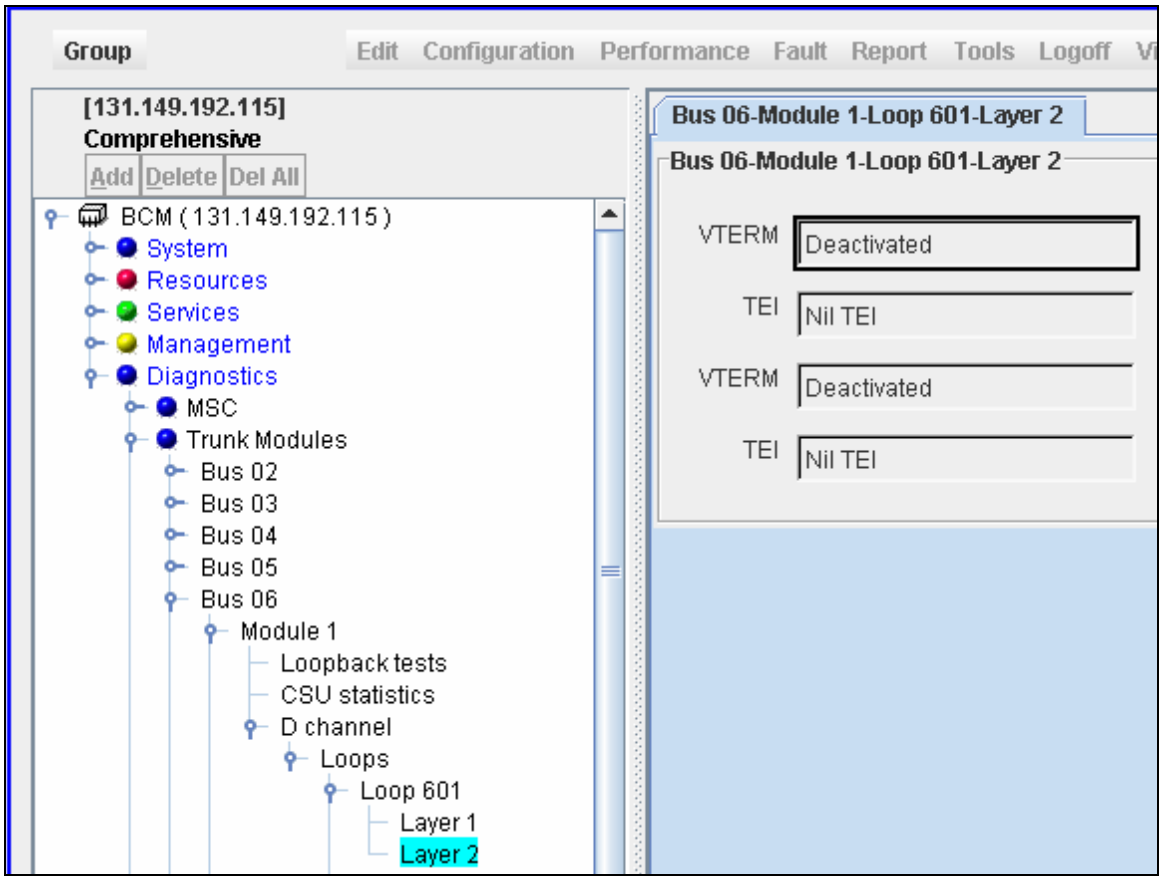


Figure 17: Diagnostic Loop 601 Layer 2

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